CLAIMS LISTING

1-9.(cancelled)

10.(currently amended)   A fine pore filter prepared by the

method of: ~~any of claims 1-9~~

forming a slurry comprising solvent, alumina and at least

0.01 wt % surfactant wherein said slurry has

sufficiently low shear stress at high shear rates less

than 12,000 dynes/cm^2 at a shear rate of 500/sec. such

that it can enter organic foam with pore size equal to

or less than 60 ppi;

impregnating an organic foam with said slurry to form an

impregnated foam;

drying said impregnated foam to form a dry impregnated foam;

impregnating an organic foam with said slurry to form an

impregnated foam;

drying said impregnated foam to form a dry impregnated

foam;

heating said dry impregnated foam to remove said organic

foam thereby forming a green ceramic; and

heating said green ceramic to a temperature sufficient to

sinter said green ceramic wherein

said filter has a density of less than 10% of the

theoretical density for a ceramic material of the same

size and a compressive yield stress of at least 20

psi.

11. (cancelled)

12. (currently amended)   A filter for filtering impurities from

molten metal wherein said filter comprises ceramic and said

filter has a density of less than 10% of the theoretical

density for a ceramic material of the same size and a

compressive yield stress of at least 20 psi and said filter
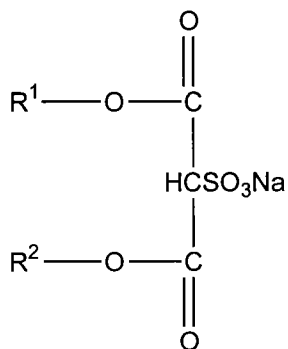
has a porosity no coarser than 60 ppi.

13. (currently amended)   The filter of any of claim ~~claims 10 or~~

12 wherein said filter has a density of no more than 8% of

the theoretical density for a ceramic material of the same

size.

14. (original)   The filter of claim 13 wherein said filter has a

density of no more than 6% of the theoretical density for a

ceramic material of the same size.

15. (currently amended)   The filter of ~~any of claims 10 or~~

claim 12 wherein said filter has a compressive yield stress

of at least 40 psi.

16. (original) The filter of claim 15 wherein said filter has a
    compressive yield stress of at least 60 psi.

17. (original) The filter of claim 16 wherein said filter has a
    compressive yield stress of at least 80 psi.

18. (currently amended) A filter of claim 12 ~~any of claims 12-~~
    ~~17~~ wherein said filter has a density of at least 12% of the
    theoretical density for a ceramic material of the same size
    and a compressive yield stress of at least 90 psi.

19 (cancelled)

20. (cancelled)

21. (currently amended) A filter of claim 12 ~~any of claims 10~~
    ~~or 12-17~~ comprising a pressure drop of less than 3 in/water
    at an air flow velocity of 285 ft/min. in a 4 inch diameter
    circular area.

22. (currently amended) A ~~sintered alumina~~ filter of claim 12
    ~~any of claims 10, 12-18 or 21~~ having dimensions of at least
    about 38.1 x 38.1 x 2.54 cm to no larger than about 76.2 x
    76.2 x 7.62 cm.

23. (new) The fine pore filter of claim 10 wherein said filter
    has a density of no more than 8% of the theoretical density
    for a ceramic material of the same size.

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24. (new) The fine pore filter of claim 10 wherein said filter has a compressive yield stress of at least 40 psi.

25. (new) A filter of claim 13 wherein said filter has a density of at least 12% of the theoretical density for a ceramic material of the same size and a compressive yield stress of at least 90 psi.

26. (new) A filter of claim 10 comprising a pressure drop of less than 3 in/water at an air flow velocity of 285 ft/min. in a 4 inch diameter circular area.

27. (new) A filter of claim 10 having dimensions of at least about 38.1 x 38.1 x 2.54 cm to no larger than about 76.2 x 76.2 x 7.62 cm.

28. (new) The fine pore filter of claim 10 wherein said surfactant comprises Formula I:

$$R^1 \!-\! O \!-\! \overset{\displaystyle O}{\overset{\displaystyle \|}{C}} \!-\! HCSO_3Na \!-\! \overset{\displaystyle O}{\underset{\displaystyle \|}{C}} \!-\! O \!-\! R^2$$

Formula I

wherein R^1 and R^2 independently represent an alkyl of 1-8 carbons with the proviso that the number of carbons in R^1 and R^2 combined does not exceed 15.

29. (new)   The fine pore filter of claim 28 wherein wherein the number of carbons in R^1 and R^2 combined does not exceed 14.

30. (new)   The fine pore filter of claim 29 wherein the number of carbons in R^1 and R^2 combined does not exceed 13.

31. (new)   The fine pore filter of claim 10 wherein said slurry comprises no more than 1 wt% surfactant.

32. (new)   The fine pore filter of claim 10 wherein said filter has a density of no more than 10% of the theoretical density for a ceramic material of the same size.

33. (new)   The fine pore filter of claim 10 wherein said filter has a density of less than 10% of the theoretical density for a ceramic material of the same size and a compressive yield stress of at least 20 psi

34. (new)   The fine pore filter of claim 10 wherein said alumina is selected from sintered alumina and phosphate bonded alumina.

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